

be done fairly and openly by honourable competition, and not awarded to a single architect without opposition; for this corrupt system has been most lamentably illustrated in the instances perpetrated at the Pavilion at Brighton, and Buckingham Palace, which are utterly beneath all contempt; we, therefore, call upon the Commissioners of Woods and Forests, and others high in authority, to weigh well this important point, bearing in mind that the architectural honour of our nation is at stake in their decision;—let their choice of a plan, we urge, be determined agreeable to the arrangement adopted in the selection of the designs for the new Houses of Parliament, now tending to such a glorious and magnificent result.

Nor let it be supposed for a moment that I consider the architect of that structure is superior to all his contemporaries of the present day; there are others who possess equal powers, but which await only calling into action on a grand scale; therefore let the matter be settled by honourable competition, and the award given to one of those great artists whose design shall be the best, and not by an individual selection beforehand, which we venture to predict would end in universal dissatisfaction, leading to the erection of a structure unworthy of the purpose to which it is to be applied.

Another most important consideration as regards this subject, is the proper style in which the erection should be designed. A selection might be made from three; viz.—1st, The decorated Greek of Leo von Klenze; 2nd, The Palladian; and 3rd, The Tudor;—rejecting the corruptions and puerilities of the Elizabethan, as totally unfit for works of a large and commanding nature.

No doubt, the Gothic enthusiasts of the day will exclaim against the style we have denominated decorated Greek, but let us humbly crave their pardon, and request them to throw aside their prejudices, and remember, that for purity of conception, breadth of parts, and refined elegance, this style is still pre-eminent; and in this respect superior to all others, stands out in the most conspicuous light, as is so gloriously illustrated in the magnificent structures of Klenze, erected at Munich under the genial influence of that great patron of art, the present king of Bavaria.

The same observations will equally apply to the Palladian manner, with all its luxuriant combinations, which always succeeds when entrusted to a great and comprehensive mind, that can seize its beauties only, and reject its imperfections,—and only fails under the influence of mediocrity, as was so lamentably illustrated by Nash in the structure which has called for the present remarks. We gaze on the works of Brunelleschi, of Buonarrotti, of Wren, and of Vanbrugh, and confess that Palladian architecture has beauties and capabilities of no ordinary character, and moreover is just as much adapted to our climate as the Gothic manner, notwithstanding recent ravings.

Regarding the Tudor style, as applied to structures on a large scale, let it be borne in mind that it requires a peculiar mode of treatment to be rendered effective, and much judgment in the arrangement of its masses, so as to present an agreeable perspective, which its numerous vertical lines tend in no small degree to interrupt. In conclusion, Sir, you will, I trust, join the almost universal voice in the endeavour to prevent so consummate an abomination being committed as the proposed addition and patchwork at Buckingham Palace, and allow me again humbly to call upon those high in authority in the Government of the land, to have some regard for the architectural honour of the nation, and not to lend themselves to the perpetration of a job that will most inevitably continue us as the laughing

\* Leo von Klenze has erected some splendid public structures at Munich, in the designing of which he attempted what no other architect had the hardihood to do, viz., to decorate the pure Greek architecture, the germs of which are to be found on the Athenian acropolis. And in this daring attempt he has been transcendently successful. Such is the power of an original and well-directed mind, with the advantage of high and liberal patronage. When Mr. Inwood designed St. Pancras Church, he copied as closely as possible the original Greek forms with scrupulous accuracy, and produced a work of great purity; on the contrary, Klenze soared into a wide field, embracing the regions of his own original conceptions and combinations, embellishing meagre forms, and even introducing the arch, which by the narrow-minded cavillers of the present age may be considered a perfect heresy, but in the hands of this great master becomes a positive and absolute beauty, in the peculiar style of which he may be said to have been the inventor.

stock of our continental neighbours; but endeavour to erect a royal palace on a site healthy and salubrious, and of magnificent and appropriate architecture, that will not only call forth the praise of the connoisseur, but also the undivided applause of the multitude.

I am, yours, &c.,

FRANK TYRRELL.

Newcastle-upon-Tyne, Sept. 1846.

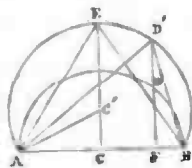
#### ON THE PROPOSED EXCHANGE OF GROUNDS.\*

Your correspondent, "Uran Stuart," states, that the measures which he had given "arose out of the actual circumstances of a survey." How far they might arise out of a survey is one question; but I presume that your correspondent is too good a surveyor to adopt such a mode of taking notes. In fact, he has only framed those conditions from his survey, and his problem amounts to no more than an exercise in investigating areas subject to certain geometrical conditions. It is much to be desired, that when problems are so formed, their proposers would abandon the absurd attempt to render them interesting, by representing them as "arising out of actual practice"—a custom which is becoming much too general in our day.

Mathematically, these problems present but little difficulty. They have been over and over solved by pure geometry; but I send you the algebraic investigations from them leading, generally, to a more simple determination of the required value than is furnished by the constructive methods. The investigations are given in the general form, and then the given numbers inserted in the final formula.

(No. 1.)

Let ADH be the triangle, and AB the base = 2a (= 400); let the semicircle on AB cut the perpendicular DF in D. Put AD = b = 61, and FD = mFD (= 3 FD).



Then  $CC' = a \cot \alpha$ ,  $AC' = a \cot \alpha \cot \beta$ , and the equations of the circles ADB, AD'B are respectively

$$x^2 + y^2 = a^2 \dots \dots \dots (1)$$

$$x^2 + (y - a \cot \beta)^2 = a^2 \cot^2 \beta \dots \dots \dots (2)$$

Now in the problem, we have

$$x = r \text{ and } y = my;$$

whence, substituting these in (1, 2) and subtracting, we obtain

$$y = \frac{2ma \cot \beta}{m^2 - 1};$$

and area = AC. FD = AC. mFD

$$= \frac{2m^2 a^2 \cot \beta}{m^2 - 1} \dots \dots \dots (3)$$

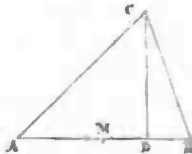
or in reference to the given numbers

$$\text{area} = \frac{2 \cdot 2^2 \cdot 200^2 \cot 61^\circ}{3}$$

$$= 59126 \cdot 304 \text{ yards.}$$

(No. 2.)

Let ABC be the triangle; CD the perpendicular from the vertical angle to the base = b



(= 360); M the middle of the base, and hence

$$MD = a = \frac{246}{2} = 123; \text{ and let } AC = CB = d$$

$$= 120, \text{ and } AM = u.$$

$$\text{Then } AC = \sqrt{(u+a)^2 + b^2},$$

$$\text{and } BC = \sqrt{(u-a)^2 + b^2}.$$

\* See page 442, ante.

But, by the question, we have

$$AC - BC = d$$

$$= \sqrt{(u+a)^2 + b^2} - \sqrt{(u-a)^2 + b^2}.$$

Resolving this question by the usual methods, we get

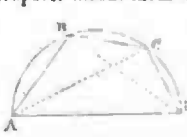
$$u = \frac{d}{2} \sqrt{\frac{4b^2 - d^2}{4a^2 - d^2}}$$

$$\text{and area} = bu = \frac{bd}{2} \sqrt{\frac{4b^2 - d^2}{4a^2 - d^2}}$$

Substituting the given number in this, we find

$$\text{area} = 68427 \cdot 007 \text{ yards.}$$

Let AB, BC, CD be the three given sides of the inscribed quadrilateral, taken (as, probably, the proposer meant them to be) conti-



nuously, the fourth side being the diameter AD. Join AC, BD, and denote the several lines as follows:—

$$\begin{array}{ll} AB = a, & AC = x, \\ BC = b, & BD = y, \\ CD = c, & AD = z. \end{array}$$

Then by right angled triangles and Enc. vi. D., we have

$$\begin{array}{l} x^2 = z^2 - c^2, \\ y^2 = z^2 - a^2, \\ xy = bz + ac. \end{array}$$

Substitute the first and second in the square of the third equation; then after slight reduction there is found the cubic equation,

$$z^3 - (a^2 + b^2 + c^2)z = 2abc.$$

Any one of the roots would give a value of z, that would render AD a diameter; but in the case supposed above, it will be the greatest root that must be used.

Insert the given values of a, b, c, then

$$z^3 - 97341z = 10512600.$$

The greatest root of this is readily found by the usual methods (Horner's method is far the best) to be

$$z = 356 \cdot 195226.$$

Now, by the common rule for the area of the inscribed quadrilateral, if we put

$$a + b + c + z = 2s,$$

we have the area represented by

$$\sqrt{(s-a)(s-b)(s-c)(s-z)};$$

or inserting the given numbers, and taking the approximate value 356.2 of z for simplifying the mere work, we have

$$\text{area} = \sqrt{222 \cdot 6 \cdot 303 \cdot 6 \cdot 273 \cdot 6 \cdot 87 \cdot 4};$$

which is easily computed by logs., and found to give

$$\text{area} = 40201 \text{ yards.}$$

The sum of the three plots is 167754 yards very nearly. The side of the equivalent square plot is 409½ yards nearly; and the gentleman has "caught a tartar" who adroitly offers something less than two-thirds of the quantity in exchange.

Sept. 17, 1846.

PERPENDICULAR.

#### NEW WORKSHOPS, EASTERN COUNTIES RAILWAY.

BUILDERS' TENDERS.

THE following is a list of the tenders delivered on the 30th ult. for building workshops, &c., at the Eastern Counties Railway Station, Stratford. Mr. H. Hunt, architect:—

Croker .....	£82,300
Reddin and Coldersham .....	74,000
Crook .....	68,651
Grimsdell .....	67,991
Jackson .....	66,917
Baker and Son .....	66,785
Knight .....	64,800
Barton .....	62,981
Winland and Holland .....	62,899
Kelk .....	62,800
Curtis .....	62,414
Piper .....	58,710

The lowest tender was accepted. The difference between the highest and the lowest in this case is the more extraordinary, inasmuch as the quantities were supplied to all the builders: How is it to be explained.